

Remarks

Claims 1-7, 11-40, and 44-50 are pending in the application. Claims 11-27, 34-40, and 44-50 are canceled above as drawn to a non-elected invention. Claim 1 has been amended above to clarify the claim, most particularly clarifying that at the 5' and 3' ends of the expression cassette are sequences homologous to those of a target plastids genome, such that homologous recombination is facilitated. Support for this amendment is found at, for example, page 6, lines 17-20. Claim 28 has also been amended to clarify the claim in part to response to indefiniteness rejections set forth in the latest office action. Upon entry of this amendment, claims 1-7 and 28-33 will be pending before the Examiner. In addition to the amendments to the claims, a number of amendments to the specification have been presented, most of which are directly in response to comments by the Examiner, and for whose input Applicants hereby express their gratitude.

By virtue of the foregoing amendments to the specification, Applicants believe that the formal matters set forth in Sections 2, 3, and 4, spanning pages 2-3 of the Office Action, have been addressed and rendered moot. Reconsideration is respectfully requested.

Next, Applicants request reconsideration of the objections to the claims set forth at page 3 of the Office Action, in view of the foregoing amendments to the claims.

Applicants respectfully traverse the §112, first paragraph, "enablement" rejection set forth at pages 4-6 of the Office Action. Applicants note that their claims are directed to a vector, not transformed plants as seems to be the focus of the rejection. It is indisputable that Applicants teach how to construct a vector. While Applicants acknowledge that they teach a particular exemplifying construct having sequences 5' and 3' of the heterologous sequences of interest which are useful for integrating foreign genes specifically into a tobacco plastid genome, their teachings are not limited to this embodiment. In particular, Applicants point to page 16, lines 6-19 which teach use of the universal plastid expression/integration vector in which the flanking sequences are taught (at line 11) to be "highly conserved among higher plants." Accordingly, those skilled in the art would expect the claimed vector to be integratable into plastids of a wide variety of higher plant species. Further, in response to the Office Action's citation of Heifetz (2000), Applicants note that Heifetz does not dispute the fact that transformation vectors can readily integrate into a wide number of species, but rather focuses on the fact that selection of transformed cells is the primary difficulty in regenerating transformed plants. See, for example, the first and last sentences of Section 2.5 at page 658 where Heifetz states,

"Delivery of cloned DNA fragments with or without integration into the plastid genome has been achieved for several plant species . . . , but efficient selection and segregation to the homoplasmic state has proven to be a limiting factor . . . Hence, improved selectable markers . . . will likely be important for developing efficient plastid transformation in the majority of important crops that are not amenable to antibiotic selection."

Thus, Heifetz does nothing to refute the fact that Applicants' specification enables the construction of the claimed vectors. Reconsideration and withdrawal of this rejection is respectfully requested.

Next, Applicants respectfully traverse the §112, first paragraph, "written description" rejection set forth at pages 6-7 of the Office Action. Applicants believe that this rejection has been obviated by the above amendments to claim 1 and 28, deleting reference to DNA encoding a chaperonin. Accordingly, reconsideration is respectfully requested.

Next, Applicants request reconsideration of the §112, second paragraph, "indefiniteness" rejections set forth at pages 7-8 of the Office Action. Applicants believe that the above amendments to the claims have addressed each of the bases for rejection, and accordingly the rejections should be withdrawn.

The Commissioner is hereby authorized to charge any fees under 37 CFR 1.16 or 1.17 as required by this paper to Deposit Account 19-0065.

Applicants invite the Examiner to call the undersigned if clarification is needed on any of this amendment, or if the Examiner believes that a telephone interview would expedite prosecution of the subject application to completion.

Respectfully submitted,



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JL/srp

Attachment: Petition and Fee for Extension of Time; Petition for Submission of Color Drawings.